

What is claimed is:

1. An intervertebral spacer for implantation into a disc space between adjacent vertebrae, said spacer comprising a deformable body formed to include a shape memory polymeric material, said body comprising: a first bearing surface, an opposite, second bearing surface and a peripheral sidewall positioned therebetween, said spacer having a lateral axis extending therethrough and positioned to lie substantially parallel said first bearing surface, and wherein said body deforms in a direction along said lateral axis upon application of a selected stimulus.

2. The spacer of claim 1 wherein the spacer is cylindrical.

3. The spacer of claim 1 wherein the spacer comprises an elongate body.

4. The spacer of claim 1 wherein the spacer is "C" shaped.

5. The spacer of claim 1 wherein the peripheral sidewall collapses back onto itself.

6. The spacer of claim 1 wherein the peripheral sidewall comprises a first lateral wall portion, an opposite second lateral wall portion, and an end wall portion positioned therebetween.

7. The spacer of claim 1 wherein the body comprises an interior cavity.

8. The spacer of claim 1 wherein the selected stimuli includes thermal or photoradiation energy.

9. The spacer of claim 1 wherein the selected stimuli includes heating to a deformation temperature between about 38° C and about 100° C.

10. The spacer of claim 9 wherein the selected stimuli includes heating to a temperature between about 40° C and about 65° C.

11. The spacer of claim 9 wherein the body at a temperature below the deformation temperature exhibits a compression modulus comparable to that of cortical bone.

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12. The spacer of claim 9 wherein the body is adapted to withstand 500 N compressive force without significant deformation when maintained below the deformation temperature.

13. The spacer of claim 1 wherein the body is provided in a first configuration having a first cross-sectional profile positioned orthogonal to said lateral axis, wherein said body deforms to a second configuration having a second cross-sectional profile positioned orthogonal to said longitudinal axis, said second cross-sectional profile smaller than said first cross-sectional profile.

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14. The spacer of claim 1 wherein the polymeric material is biodegradable.

15. The spacer of claim 1 wherein the shape memory polymeric material is selected from the group consisting of: polylactide, polyglycolide, poly(lactide-co-glycolide), polyurethane, poly(ethylene-co-vinyl acetate), poly(ethylene-co-propylene), poly(ethylene-co-propylene-co-diene), poly( $\epsilon$ -caprolactone), poly( $\beta$ -hydroxybutyrate), poly( $\beta$ -hydroxybutyrate-co-hydroxyvalerate), poly(methacrylate), poly(methyl methacrylate), poly(acrylate), and mixtures, copolymers and blends thereof.

16. The spacer of claim 1 wherein the body is provided in an original configuration.

5 17. A spacer for insertion into the spine, said spacer formed of a material comprising a shape memory polymer and provided in an original configuration and deformable to a second configuration, wherein said spacer reverts to the original configuration by action of the shape memory polymer.

10 18. A method of orthopedic treatment, said method comprising:  
preparing one or more vertebrae to receive a spacer,  
implanting a spacer to contact one or more vertebrae, said spacer formed of a material comprising a shape memory polymer and provided in an original configuration and deformable to a second configuration, wherein said spacer reverts to the original  
15 configuration by action of the shape memory polymer, and  
subjecting said spacer to a selected stimulus wherein said spacer deforms.

19. The method of claim 18 wherein said subjecting comprises subjecting the  
20 spacer to a selected stimulus after the spacer has been implanted.

20. The method of claim 18 wherein the selected stimuli comprises heating the spacer to a temperature between about 40° C and about 65° C.

25 21. The method of claim 18 wherein the body is cylindrical or C-shaped.

22. The method of claim 18 wherein the body is kidney-shaped.

23. The method of claim 18 wherein the spacer is implanted into a disc space between adjacent vertebrae.

24. The method of claim 18 wherein the body expands laterally in a prepared  
5 disc space.

25. The method of claim 18 wherein the body includes an interior cavity for receipt of an osteogenic material.

10 26. The method of claim 18 wherein the spacer is biodegradable.

27. The method of claim 18 wherein the spacer is implanted into a vertebral body.